

Waco Tribune-Herald – July 13, 2002

## Studies under way to unmask effects of perchlorate

*By RICHARD L. SMITH Tribune-Herald staff writer*

Little was known about a contaminant city of Waco officials found in 1998 while testing the water quality of Harris Creek.

All the secrets of the chemical compound known as perchlorate still have yet to be uncovered four years later. But researchers involved with a three-year study in both the Leon and Bosque river watersheds say progress is being made.

"We hope that when we're done we will have a better understanding of perchlorate and the effects it has on people and the watershed," said Brian Condikey of the U.S. Army Corps of Engineers office in Fort Worth. He is the project manager of the study that is a collaborative effort of the Corps, Brazos River Authority, the U.S. Environmental Protection Agency, Texas Natural Resource Conservation Commission and the U.S. Navy. Under contract to assist in the study is the California environmental engineering firm Montgomery Watson Harza and the Institute of Environmental and Human Health at Texas Tech University.

Perchlorate was used in the production of solid rocket motors that were made at the former Naval Weapons Industrial Reserve Plant in McGregor. All of the health effects of perchlorate have not been identified but it is known to adversely affect metabolism and growth.

The Navy has cleaned up various toxic chemicals at the former plant in an effort to transfer the almost 10,000-acre site to the city of McGregor. The city wants to use the property for economic and industrial development. Almost 3,500 acres have been turned over to McGregor, so far, according to the Corps of Engineers.

Perchlorate became a priority in clean-up of the site, which is almost dissected by the Bosque and Leon watersheds. The Bosque feeds Lake Waco and the Leon supplies water to Belton Lake. Congress appropriated \$6 million for a study of the compound that began last year. An additional \$1.9 million for the project was approved Wednesday by the Energy and Water appropriations subcommittee of the House of Representatives. U.S. Rep. Chet Edwards, D-Waco, is a member of that subcommittee. He said the study is important to those who depend on Lake Waco and Belton Lake for drinking water.

"You've got nearly 400,000 people who get their drinking water from Lake Waco and Belton Lake," Edwards said. "It would be a serious economic hit to Central Texas if the water supply of either Fort Hood or the dozens of cities that obtain their drinking water from those lakes had to shut down their water supply for even one day."

Condikey said the study focuses on how perchlorate travels in surface water and groundwater of a particular watershed as well as the compound's effects on living organisms. A new automatic sampling program should help researchers better understand the former goal. There are now 15 sites being identified where continuous sampling will take place.

"It will allow us to collect samples every hour for 24 hours or during stormwater events. Also it will show how groundwater levels affect stream flow," Condikey said, pointing out that water in the area of the former plant often flows from a stream into the ground and then back into the stream. "We are in the process of getting permission from landowners to install our equipment."

Texas Tech researchers are at the same time trying to find out what effects if any perchlorate has on animals.

"What we were asked to do there is to look at the ecological question," said Todd Anderson of Texas Tech's institute. "Are the critters getting exposed (to perchlorate)?"

Condikey said the Texas Tech researchers have been collecting animals such as fish, rodents and birds from the watershed.

"They have found perchlorate in organisms but the patterns are not clear and they don't understand all the interactions," he said. "They still have another year to find out what's going on."

The Texas Tech scientists have also been studying perchlorate at the former Longhorn Army Ammunition Plant near Caddo Lake in Northeast Texas. The TNRCC also developed a contract with the university this month to study recent perchlorate findings in the Midland area and around Levelland near Lubbock.

Navy contractors have been using various methods to treat perchlorate-tainted groundwater found on the plant site. The TNRCC granted a temporary order in May that allows the Navy to discharge water into a

tributary of Station Creek, which flows into the Leon River. Environmental officials have said that readings of about 90,000 parts per billion were found in the past on at least one area of the former plant site. The new order specifies that there must be no more than 6 parts per billion of perchlorate in the treated water when discharged.

An EPA draft report this year recommends restricting the chemical in the water to 1 part per billion. That report is under review and could lead to an enforceable limit. Perchlorate is among a group of 32 chemicals the EPA is considering for regulation in drinking water.